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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of  
Xiaor Wang, et al.

INK COMPOSITION

Serial No. 10/686,825

Filed October 16, 2003

Group Art Unit: 1714

Examiner: Callie E. Shosho

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*Nov. 20, 2007*

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Sir:

**APPELLANTS' REPLY BRIEF**

This Reply Brief is necessitated by several "new points of argument" in the Examiner's Answer mailed September 20, 2007. Each new point of argument is addressed below in turn.

1) The Examiner states, on page 12, that: "It is the Examiner's position that the arguments provided by the applicant regarding Ishii et al. must be supported by a declaration or affidavit."

It appears to now be standard practice among Examiners to make this type of statement in Reply Briefs, although it seems rather late and vague for such a suggestion. It is noted that the Examiner has not identified what particular argument or evidence should be in a declaration. It is further noted that there is very significant

comparative data in the present case which the Examiner has not previously questioned for not being in the form of a declaration.

Specifically, Comparison C-2, in Table 2, page 14, of the present specification, is very on-point as a comparison to the Examples in Ishii et al. The Examiner, however, appears to be requiring a comparison to a hindsight construction, based on selected “picking and choosing” from Ishii et al., rather than a comparison to what Ishii actually did.

The Applicants submit that the proper and reasonable comparison would be to what Ishii et al. actually did in the Examples, not to what the Examiner arguably thinks is obviously taught by Ishii et al.

In particular, in Example 1 of Ishii et al. (col. 26), Ishii et al. adds resin particles, already made in Preparation Example 1, to the colorant (nigrosine), whereas Applicants are claiming a process in which the resin or polymer is formed/polymerized *in situ* with a pigment colorant. The method of Ishii et al., separately adding resin and pigment, is shown by present Comparative Example C-2 to be comparatively unstable. The Comparative Example C-3 shows that not only should the polymer be formed *in situ*, but as further required by Claim 2 and Claim 15, the order of the reactants is an important feature, in which the initiator is advantageously added before the monomer mixture for the polymer phase.

2) The Examiner states on page 13, second full paragraph, states as follows:

“However, while it is agreed that there are no examples in Ishii et al. that disclose how the colored particles are obtained, attention is drawn to col. 21, lines 62-col. 22, lines 44-63 of Ishii et al. that disclose that specific pigment and polymer utilized in the colored particles....Further, attention is drawn to col. 23, lines 33-47 of Ishii et al. that discloses method for producing the colored particles. For instance, it is disclosed that the colored particles are made by mixing, melting, kneading, and pulverizing the pigment and resin.”

Furthermore, the Examiner attacks the comparative examples in the present case because, “Ishii et al. disclose preparing the colored resin particle by

pulverizing method or polymerization granulation methods not be the method of comparative examples C-2 or C-3.”

As pointed out above, there are no Examples in Ishii et al. of such a preparation. However, it is also important to note that the present composite colorant particles cannot be made by the method of mixing, kneading, and pulverizing, as incorrectly alleged by the Examiner.

As noted in column 23, line 30, although Ishii mention a broad range of 100 to 1500 nm, the most preferable size of the colored particles of Ishii et al. is 400 nm to 1000 nm. Applicants' composite colorant polymeric particles are required to be less than 200 nm, preferably less than 80 nm (claim 10).

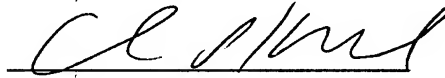
The resin particles alone (without colorant) used by Ishii et al. in their examples are 230 nm (col. 26, line 16). Accordingly, if such resin particles were used to coat or encapsulate pigment particles, the dimensions would easily exceed 500 nm.

Regarding, the theoretical method of “mixing, melting, kneading, and pulverizing the pigment and resin,” which is not in any of the Examples of Ishii et al., such method is not capable of producing particles having a size less than 200 nm, so such a comparison would be impossible. Furthermore, it is not possible to uniformly distribute small pigment particles in a polymer resin by mixing, melting, and kneading, which is why there is no example in the prior art of obtaining such colorant particles under 200 nm. It cannot be done. It would not result in any colorant particles for an inkjet composition resembling the ink composition of the present invention.

In fact, the method of “mixing, melting, kneading, and pulverizing the pigment and resin,” as theoretically mentioned by Ishii et al., is how toner particles for electrophotography are conventionally made, not inkjet ink compositions for thermal inkjet or the like. This may help explain why the composition of Ishii et al. is made for a special type of printer in which “The agglomerates of the colored particles are formed at the jetting position, and the agglomerates are ejected from the jetting position by electrostatic means.” As mentioned in the Applicants' Appeal brief, this is exactly the opposite of the purpose of the present invention, which is to avoid such agglomeration. The Examiner, however, considers it to be reasonable to redesign the composition of Ishii et al. for a different purpose based on Applicants' disclosure.

For these reasons, as well as those presented in Appellants' Brief, Appellants respectfully submit that the Final Rejection is in error, and they request its reversal by the Honorable Board.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'C. Konkol', is written over a horizontal line.

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